

EXPLORE MARS, INC. PRESENTS:

MARS INNOVATION CHALLENGE

Explore Mars, Inc. ("Explore Mars") invites you to participate in **The Mars Innovation Challenge**, a solo or team-based challenge for students K-12 (age 5-18) globally. Students can enter individually or register as a team to solve a real-world problem faced by the future explorers to Mars and present an innovation to help problem solve for humans surviving, living, and thriving on Mars.

Registration and Submissions Opens February 1, and Closes April 24 (extended), 2023:

<https://ExploreMars.Org/Mars-Innovation-Challenge/>

Registration and Who Can Enter:

- Students can register individually, or as a team, or teachers can register their entire class at: explorethemars.org
- The contest is open globally to students K-12 (age 5-18).

Grades (Participants/Teams will be grouped via the following Grade Levels):

K-2 (age 5-8)

3-5 (age 9-11)

6-9 (age 12-15)

10-12 (age 16-18)

STEP 1 - Anticipate, Innovate, & Solve by selecting from one of the three topic areas below and choosing one specific challenge to use for your Mars Innovation Challenge "Solution."

ex. **Topic area** = *Surviving on Mars* | **Challenge** = *Food - How will science help us grow food on Mars?*

1. SURVIVING ON MARS

Environmental Control/Life Support Systems (ECLSS) - How do we live in such harsh conditions?

Example:

Water - drinking and recycling it
Food - growing it with farming or with science

Bathroom - what happens when you poop on Mars?

Radiation - protecting humans from sun damage on another planet

2. LIVING ON MARS

Building Martian Cities - what will we need?

Examples:

Power - what kinds of energy can we create and use? (going off the wind/electric/solar kinds of power we learn about in science class)

Buildings - what do homes, schools, recreation centers, and offices look like on Mars? The surface of Mars is very different from Earth, and we could live in caves or lava tubes.

Laws - how do we govern a new society?

Money - Do we need money on Mars?

3. THRIVING ON MARS

Brains and Bodies - how do we support mental and physical health?

Examples:

Mood & Mental Health

Exercise

Maintaining Relationships

Leisure & Relaxation

Entertainment and Sports on Mars

STEP 2: Research and develop your team's solutions. **Subject Matter Expert Videos are available in each of the three topics to help with research and design.

Please create a drawing, CAD drawing, and/or illustration to visualize your innovation and include it in your submission.

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STEP 3: Prepare your or your team's submission to include an essay of the proper word count (indicated below) for your age and grade level. Your essay is a written summary explaining how your idea or design works on Mars, outlining and describing your Mars Innovation, listing how it solves a challenge on Mars, and what you will build to solve that challenge. Please also include an image of your innovation/design.

K-2 150-200 words

3-5 250-400 words

6-9 500-750 words

10-12 1000-1200 words

You and your team **don't have to actually build your innovation/design**, but you are asked to imagine a Mars Innovation that answers these questions:

- How does your physical design operate on the Red Planet?
- How does your Mars Innovation rely on existing resources, aka what we find on Mars or re-use what we've already sent to Mars? (In-Situ Resource Utilization (ISRU))
- How does your Mars Innovation also benefit humans on Earth?
- How does the design and operation of your Mars Innovation Solution meet the big challenges of living on Mars?

Please record a 2-5 minute video of yourself/crew explaining how your Mars Innovation works, how it will be implemented, and how it has positive repercussions for humans on Earth.

For extra Martian points, create a slogan for your product and a 30-second commercial for your product!

STEP 4: Submit all materials, essay with minimum word count, image/drawing/illustration, video, & signed and completed media consent form at <https://ExploreMars.Org/Mars-Innovation-Challenge/>

Explore Mars, Inc. uses Google Non-Profits to manage our logistics. The Submission forms used in the "Mars Innovation Challenge" require that you have or create a free Google Account in order to upload your Challenge submissions. [Please refer to the link here to create your free Google account](#). If you are unable to sign up please contact mission-control@exploremars.org and we'll work with you to assist with your participation in the Mars Innovation Challenge. Thank you for your interest and we look forward to being inspired by your brilliance! Ad Ares!

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AWARDS AND RECOGNITION

AWARDS: All eligible teams will receive an Explore Mars Completion Certificate. In addition, Presentations/Art/Images/Essays will be shared on social media platforms including Explore Mars and Janet's Planet.

Ten semifinalists will receive a group Zoom with Mars Subject Matter Experts, and the finalist from each category will win a one-on-one virtual session with a Mars Subject Matter Expert.

The top five innovation challenge winners and ideas will have their videos played during the Humans2Mars Summit 2023.

The overall (1st place) winner (individual/team) of the Mars Innovation Challenge will receive a cash award of \$2400 and an invitation for the student/team and one chaperone to present their winning Mars Innovation Challenge Solution in person at the 2023 Humans to Mars Summit (H2M 2023), May 16-18, 2023 at the National Academy of Sciences Building in Washington D.C. (Admission fees for the winning student/team and one chaperone to the H2M 2023 conference are waived, but any and all travel, accommodations, and other expenses to attend the conference are the responsibility of the winning student/team and chaperone.)

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All eligible participants are invited as guests (*admission fees waived*) of Explore Mars, Inc. to attend H2M 2023!

Winners will be announced on or about May 1, 2023.

Explore More at: <https://ExploreMars.Org/Mars-Innovation-Challenge/>

COMPETITION JUDGING OUTLINE

- 25%: How it will work, how it will help humans on Mars, and how it will help benefit humans on Earth
- 25%: Creativity of your Mars Innovation
- 25%: Feasibility of your Mars Innovation and how it will advance human space exploration
- 25%: Quality of your written essay about your Mars Innovation

RULES & CODE OF CONDUCT

1. Please give your innovation a name and title.
2. All material to be original to the submitter. No plagiarism, and no entering copyrighted material. Your entry must be original and 100% created by YOU.
3. No inappropriate content. Submissions that violate this rule will be ineligible and will not be considered for judging.
4. Do not include your full name, address, school name, phone number, or place of residence in your submission. This information should only be entered in the Media Consent Release filled out by your grown-up or guardian. Submissions will be reviewed for eligibility, compliance, privacy, and student safety prior to being displayed in the gallery.



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